



ICAO

International Civil Aviation Organization

The Eighth Meeting of the APANPIRG ATM Sub-Group
Video Teleconference, 23 – 27 November 2020

Agenda Item 5: ATM Coordination (Meetings, Route Development, Contingency Planning)

IMPLEMENTATION OF EXTENDED RNAV 2 DOMESTIC EN ROUTE

(Presented by Indonesia)

SUMMARY

This paper share the expanding of implementation RNAV 2 in Indonesia's Domestic En Route.

1. INTRODUCTION

1.1 The purpose of extending RNAV2 implementation is to provide detailed information regarding the establishment of domestic en route by using unidirectional RNAV 2 navigation specification.

1.2 The implementation of the RNAV 2 in Indonesia is based on the needs of Indonesia's Aviation Navigation Services in Flight Information Region (FIR), develops navigation structure by following aircraft's technology, and increases flight's capacity and efficiency in Indonesia.

2. DISCUSSION

PBN Implementation Plan

2.1 The development/update of PBN Implementation Plan and its submission (plan) to the ICAO Regional Office. Indonesia will inform through Information Paper at this ICAO APAC meeting.

PBN Implementation Status

2.2 En route PBN implementation status including international route implementation with neighboring States. The Purpose is only focusing on the domestic en route based on unidirectional RNAV2.

2.3 PBN implementation status on terminal airspace (SID/STAR) including the number of airports planned and the number of airports implemented.

2.4 Extending of en route RNAV 2 will be available for:

- Jakarta (WIII) to Jambi (WJJJ) vv;
- Jakarta (WIII) to Pekanbaru (WIBB) vv;
- Jakarta (WIII) to Dumai (WIBD) vv;
- Jakarta (WIII) to Padang (WIPT) vv;

- Jakarta (WIII) to Lubuklinggau (WIPB) vv;
- Jakarta (WIII) to Muara Bungo (WIJB) vv;
- Jakarta (WIII) to Bengkulu (WIGG) vv;
- Jakarta (WIII) to Sibolga (WIMS) vv;
- Jakarta (WIII) to Nias (WIMB) vv;
- Jakarta (WIII) to Silangit (WIMN) vv;
- Jakarta (WIII) to Kualanamu (WIMM)vv;
- Jakarta (WIII) to Banda Aceh (WITT) vv;
- Jakarta (WIII) to Semarang (WAHS) vv;
- Jakarta (WIII) to YIA (WAHI) vv;
- Jakarta (WIII) to Solo (WAHQ) vv;
- Jakarta (WIII) to Surabaya (WARR) vv;
- Jakarta (WIII) to Denpasar (WADD) vv;
- Jakarta (WIII) to Lombok (WADL) vv;
- Jakarta (WIII) to Kupang (WATT) vv;
- Jakarta (WIII) to Palu (WAFF) vv;
- Jakarta (WIII) to Manado (WAMM);
- Jakarta (WIII) to Kendari (WAWW);
- Jakarta (WIII) to Gorontalo (WAMG) vv;
- Kertajati (WICA) to Balikpapan (WALL) vv;
- Surabaya (WARR) to Balikpapan (WALL) vv;
- Surabaya (WARR) to Makassar (WAAA) vv;
- Makassar (WAAA) to Ambon (WAPP) vv;
- Makassar (WAAA) to Jayapura (WAJJ) vv;
- Makassar (WAAA) to Timika (WAYY) vv;
- Timika (WAYY) to Jayapura (WAJJ) vv;
- Other pairing airport that connected with RNAV2 routes.

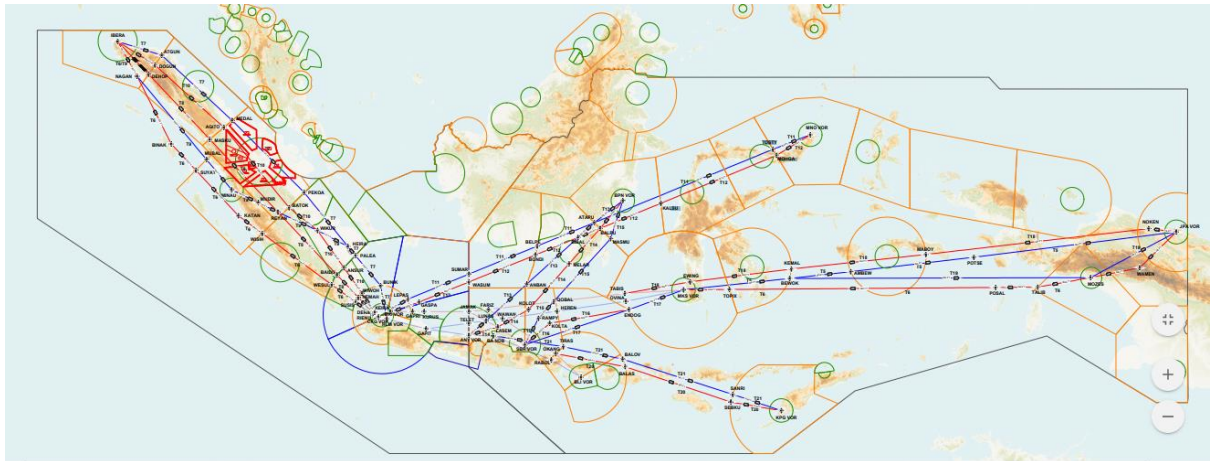


Figure 2. Extending the Domestic En route RNAV 2

2.5 Route designator:

- T2: Route from WARR to WIII Westbound;
- T3: Route from WIII to WAHS, WAHI, WAHQ, WARR, WADD, WADL East Bound;
- T4: Route from WADD to WIII Northwest Bound;
- T5: Route from WITT, WIMM to WIII. Route WIII to WAAA, WAPP, WAJJ Eastbound;
- T6: Route from WIII to WIGG, WIPT, WIPB, WIMN, WIMS, WIMB and WITT Northwest Bound, Route from WAJJ, WAPP to WAAA, WIII Westbound;
- T7: Route from WITT, WIMN, WIPB, WIJJ to WIII Southeast Bound
- T8: Route from WIII to, WIPB, WIJB, WIMN, WIMS, and WITT Northwest Bound;
- T9: Route from WIII to WALL, WAFF, WAWW, WAGG, WAMM Northeast Bound;
- T10: Route from WIII to WIJJ, WIJB, WIBB, WIBD, WIPB, WIMM and WITT Northwest Bound;
- T11: Route from WARS, WAHI, WAHQ to WALL Northeast Bound;
- T12: Route from WAMM, WAWW, WAGG, WAFF, WAMM, WALL to WIII Southwest Bound;
- T13: Route from WARR to WALL Northeast Bound;
- T14: Route from WALL to WARR, WARS, WAHI, WAHQ Southwest Bound;
- T15: Route from WARR to WAAA Eastbound;
- T16: Route from WAAA to WARR Westbound;
- T17: Route from WAAA to WABP, WAJJ, Eastbound;
- T18: Route from WAJJ, WAPP to WAAA, WIII Westbound;
- T19: Route from WIII, WARR, WADD to WADL, WATT Eastbound;
- T20: Route from WADL, WATT to WADD, WARR and WIII Westbound;
- Other pairing airport that connected with RNAV2 routes.

2.6 PBN implementation status on each end of IFR runway ends including the number of IFR runway ends and the number of IFR runway ends with RNP APCH (LNAV, LANV/VNAV), RAIM prediction service provision.

2.7 PBN routes significantly increase the capacity of the sequencing requirement for the runway in use in aircraft Flight Management System (FMS).

PBN implementation challenges

2.8 Challenges on PBN safety assessment, if any, e.g. regulation, responsible body, documentation, etc. The challenges on PBN safety assessment as follows:

- a) airworthiness (certification) of the aircraft;
- b) controller environment.

2.9 PBN operational approval issues, if any, e.g. fleet readiness, (operations, airworthiness, etc.), regulations, the number of aircraft approved for each PBN navigation specification planned or implemented, PBN operational approval training.

2.10 Training issues, e.g. procedure designer training, ATC training, cartographer, AIS, etc. Currently, the training course is very limited for the procedure designer and ATC.

2.11 Other challenges encountered during PBN implementation. The existing structure of the conventional route is very complicated, elongated from the west to the east of Jakarta FIR to Ujung Pandang FIR.

3. ACTION BY THE MEETING

3.1 The meeting is invited to note the information contained in this paper.

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